

SILIKAL® R 1090 resin is a solvent-free, medium-viscosity 2-component methacrylic resin with a hard character. It is used as a binder in order to manufacture trowel applied coloured quartz screeds in a thickness of 3 – 4 mm with a very high compressive strength.

Hot water stress is limited to +60 °C. This limit may be short-time exceeded to +80 °C for cleaning purposes, but only if the floor is not completely warmed through.

Application

SILIKAL® R 1090 resin is developed only for the use within the SILIKAL® SYSTEM B Part 3 as a decorative coloured quartz screed in indoor areas on top of concrete or a cementitious screed.

Decorative coloured quartz coating 3 – 4 mm (screed)

Guideline recipe and batch quantities

Item	Component	Guideline recipe (% by weight)	Comments	Batch for 30 litre bucket	
1	SILIKAL® R 1090 resin	22 – 23 %		7.0 – 7.5 kg	7.5 litres
2	SILIKAL® Filler FM	77 – 78 %	1 bag	25 kg	approx. 16 litres
	Total:	100 %	Average consumption: 2 kg/m² per mm thickness	31.5 kg	approx. 17 litres
3	SILIKAL® Hardening Powder	1.0 – 6 % related to item 1	See “Hardener dosages” table for quantities	70 – 450 g	

Characteristics of the cured coloured quartz coating (screed)

Property	Measuring method	Approx. value
Compressive strength	DIN EN 196-1	95 N/mm ²
Tensile strength in bending	DIN EN 196-1	28 N/mm ²

The mixture of resin and filler is applied to the primed and loosely sanded surface and initially spread coarsely to the desired thickness by means of a doctor blade. The mortar must then be compressed and smoothed using the large smoothing trowel so that no pores and trowel marks remain in the floor (danger of hardening problems). Since the smoothable coating does not level by itself, it is particularly suitable for areas with higher slope.

The application of the system requires special skills and practice (the prevention of puddles, good compaction of the mortar) to avoid pores and air bubbles within the mentioned tolerance of fillers and resin with dependence on the thickness.

After curing, the surface must be covered by top coat again (e. g. with SILIKAL® R 71, R 72 or R 81 resin).

In case of coatings and floors in areas between metal profiles and inlets, we recommend that elastic joints with the same decorative look being applied in the transition area. Otherwise temperature stresses could lead to forming of small cracks at the contact zone.

Characteristics of R 1090 as delivered

Property	Measuring method	Approx. value
Viscosity at +20 °C	DIN 53 015	270 – 330 mPa · s
Flow time at +20 °C	DIN 53 211	47 – 53 sec.
Density D ₄ ²⁰	DIN 51 757	0.98 g/cm ³
Flash point	DIN 51 755	+10 °C
Pot life at +20 °C (100 g, 2 % pbw. hardening powder)	approx. 12 – 15 min.	
Application temperature	+5 °C to +35 °C	

Characteristics of R 1090 in the hardened state

Property	Measuring method	Approx. value
Density	DIN 53 479	1.15 g/cm ³
Colour		blue-transparent

Hardener dosages

Temperature	Hardening powder % pbw. *	Pot life approx. min.	Hardening time approx. min.
+5 °C	5.0	20	60
+10 °C	3.0	20	45
+20 °C	2.0	12	30
+30 °C	1.5	10	25

* The quantity of hardening powder is always related to the quantity of resin.

👁 For further information, please refer to the separate product information sheet "SILIKAL® Hardening Powder".

CE	
SILIKAL GmbH · Ostring 23 · 63533 Mainhausen · Germany	
14 ¹⁾	
R 1090 - 001	
EN 13813 SR-AR1-B1,5-IR4	
Synthetic resins for internal uses	
(Application in accordance with the newest technical information)	
Reaction to fire:	E ₊
Release of corrosive substances (Synthetic Resin Screen):	SR
Water permeability:	NPD ²⁾
Wear resistance (Abrasion Resistance):	AR 1 ³⁾
Bond strength:	B 1,5
Impact resistance:	IR 4
Sound insulation:	NPD ²⁾
Sound absorption:	NPD ²⁾
Thermal resistance:	NPD ²⁾
Chemical resistance:	NPD ²⁾

CE-labelling

¹⁾ Last two digits of the year in which the ce marking was affixed.

²⁾ NPD = No performance determined.

³⁾ Refers to a smooth surface without broadcasting.



Other applicable documents

SILIKAL® Hardening Powder
General processing information
The substrate
Fillers and pigments
Chemical resistance
Information on safety and protection
Storage and transport
General cleaning advice

Data sheet

SILIKAL® Hardening Powder
AVH
DUG
FUP
CBK
SUS
LUT
ARH